Using Backstroke Swimming E-learning for Faculty of Sport Education Students

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Abstract

The research aims at identifying the effectiveness of e-learning by using the mobile phone or the computer as browsers for the electronic platform to teach backstroke swimming techniques for the students of the Faculty of Physical Education by observing the ideal performance analysis of the world class backstroke swimmers and also the effect on the cognitive achievement of backstroke swimming by the students of the Faculty of Physical Education.

The researcher used the experimental method for its relevance to the nature of the study by conducting the pre- and post-measurements for two groups, one of which is the experimental and consisted of 26 students, and the other is the control group and consisted of 25 students, all from the second grade of the Faculty of Physical Education.

After completing the experiment period on the experimental group using the electronic platform in learning backstroke swimming – the performance level of the students in backstroke swimming was evaluated in the experimental and control groups – by giving scores for the arms movements, legs strokes and the overall compatibility of the method of backstroke swimming – by the judges to evaluate the performance – as well as the theoretical part of backstroke swimming to determine the effect of using the proposed electronic platform on teaching backstroke swimming for the students of the Faculty of Physical Education.

In light of the research results, the researcher concluded the following:

1. *Using e-learning via the electronic platform in teaching backstroke swimming has improved the students' performance in backstroke swimming and had a positive impact on the cognitive achievement of the students of the experimental group.*
2. *Using the students of the experimental group for the electronic platform in learning backstroke swimming had a positive and statistically significant effect in the overall tests under research in favor of the experimental group.*

.Keywords :(E-Learning, Mobile education, Feedback, Mental Imagination, Cognitive achievement)

Introduction and research problem:

Many studies confirm that the use of internet in education achieves many of the positive points, since it allows flexibility at the time of learning and enables a large number of learners to access the same information at the same time. The internet has also led to getting the instructor's job focused on guidance and instructions and provided the learner a positive role in interacting with the educational material.

The learner can study his curricula online, face to face with the instructor in order to apply an electronic curriculum or content through which the instructor can present his scientific material to the student.

Backstroke swimming is one of the methods of swimming that can be easily performed, but it requires careful explanation of its educational and technical phases to apply the motor duty with the minimal effort in the shortest time as possible – although there are many students not able to perform the backstroke swimming with a good level and do not understand and master the progression of the technical phases of some different techniques because they follow the traditional method of education, which depends on explaining the performance of the presented model – so it was necessary to use modern technological means that can contribute to helping the instructor provide information about the technical performance and educational and technical exercises of the backstroke swimming and help the learner to understand and assume the exact sequence of the motor performance and the way of performing the exercises properly to achieve better learning.

This induced the researcher to try to identify the effect of using some methods of teaching technology and computer in teaching backstroke swimming for the students of the Faculty of Physical Education – because learners may rely on keeping the images that are stored in their memory in learning for the ideal performance of high level swimmers much better than the traditional method by explaining the performance of the colleague inside the water as the model.

Research Importance:

1. Building and using an electronic platform to teach backstroke swimming for the students of the Faculty of Physical Education.
2. Providing the students with the opportunity to use the mobile phone and the computer as a means to browse the electronic platform outside the academic time.

3. Taking advantage of the students' mental visualization abilities to provide a proper perception of the form of backstroke swimming performance to apply it during education.
4. Increasing the effectiveness of using e-learning techniques in physical education.

Research Objectives:

1. Determining the duration of the e-learning effectiveness by using the mobile phone and the computer as browsers for the electronic platform to teach backstroke swimming techniques for the students of the Faculty of Physical Education by observing the ideal performance analysis of the world class backstroke swimmers in order to gain the proper mental perception of backstroke swimming movements and techniques among the students who are beginning to learn backstroke swimming.
2. Determining the effectiveness of provoking the students' motivations to learn using the mobile phone or the computer as browsers for the electronic platform, and the extent of this effect on acquiring the necessary mental perception to teach backstroke swimming for the faculty students.
3. Determining the effectiveness of using the mobile phone and the computer as browsers for the electronic platform on the cognitive achievement of backstroke swimming among the students of the Faculty of Physical Education.
4. Comparing the effect of observing the ideal performance analysis of the world class backstroke swimmers by using the mobile phone or the computer as browsers for the electronic platform and using the traditional method of education which depends on explaining the performance of the presented model during the lecture of the technical performance of backstroke swimming for the faculty students.

Research Hypotheses:

1. There are statistically significant differences between the control and experimental groups in the technical performance level of backstroke swimming among the beginner students in favor of the experimental group.
2. There are statistically significant differences between the control and the experimental groups in the post-measurement of the students' cognitive achievement level in favor of the experimental group.
3. There are statistically significant differences between the post-measurement of the control and experimental groups in the overall total of the technical performance scores in backstroke swimming and the cognitive testing in backstroke swimming in favor of the experimental group.
4. Comparing the effect of observing the ideal performance analysis of the world class backstroke swimmers by using the mobile phone or the computer as browsers for the electronic platform and using the

traditional method of education based on the explaining the performance of the presented model during the lecture of the technical performance of backstroke swimming for the faculty students.

Research Procedures:
Research Methodology:

The researcher used the experimental method by conducting the pre- and post- measurements for two groups, one of which is experimental (watched the educational films of the ideal performance of backstroke swimming on the electronic platform using the mobile phone or the computer to obtain a proper mental perception of backstroke swimming in each lecture before performing the practical part of the lecture and also after the school day to study them once at least a day) by showing illustrative films of backstroke swimming performance by the top-level swimmers using the slow-motion of performance and common mistakes in backstroke swimming to avoid them in a way that is difficult for the instructor to explain with the naked eye during the lesson in order to understand the technique required to be performed and to master the learning of backstroke swimming technique in a better way. The other group used the traditional studying program using the verbal explanation of backstroke swimming and using the model.

Research Community and Sample:

The research sample was purposively selected from the second grade students at the Faculty of Physical Education for Boys in Abu Qir – Alexandria University from whom had never learned backstroke swimming in the faculty or practiced it in any other place in the past. The researcher selected 58 students from the second grade and divided them into two groups (26 students for the experimental group, 25 students for the control group and 7 students for the pilot study)

Study Measurements:

1. Horizontal float tests on the back.
2. Slip test from the horizontal float position on the back.
3. Buoyancy test on the back with legs strokes.
4. Backstroke swimming with the arms only for a 20m long distance.
5. Backstroke swimming for a 20m long distance.

Application of the Main Experiment:

The researcher conducted the main experiment in which the experimental group watched the ideal performance for the top level backstroke swimmers on the electronic platform and this performance is accompanied by an educational explanation of how the arms move and the phases of entering the arms into the water and the phases of catching the water, pushing, getting the arms out of the water, the body position and the shape and movement of the legs during performance and also the overall compatibility of the method of swimming by using the mobile phone of each student during the lecture and before

applying the practical part in the lecture on the swimming pool bleachers – before starting the practical part along with their colleagues of the control group, who have finished listening to the explanation of the method of performance of backstroke swimming – at this point the students of both groups would start the practical application of the movements of backstroke swimming through the various progressive exercises to learn the backstroke swimming.

Post-Measurement:

After completing the experiment period on the experimental group using the electronic platform in learning backstroke swimming – the performance level of the students in backstroke swimming was evaluated in the experimental and control groups – by giving scores for the arms movements, legs strokes and the overall compatibility of the method of backstroke swimming – by the judges to evaluate the performance – as well as the theoretical part of backstroke swimming to determine the effect of using the proposed electronic platform on teaching backstroke swimming for the students of the Faculty of Physical Education.

Statistical Treatments:

The following statistical treatments were found by using the "SPSS version 20" software:

- Arithmetic Mean
- Standard Deviation
- Median
- Skewness coefficient
- Kurtosis coefficient
- Two groups (T) test
- Percentage
- Percentage of variations
- ETA Squared
- Cohen effect size

Table (1)

Statistical indications of the total tests under investigation for the experimental group and the control group after the experiment

Statistical Indications / Variable	Experimental Group N = 25		Officer Group N = 26		Difference Between the averages	Value (t)	Error level	Percentage of differences %
	X	±Y	X	±Y				
Total tests under consideration	**29.60**	**4.01**	**22.27**	**2.36**	**7.33**	**7.99***	**0.00**	**32.92%**

*Morale at the level of 0.05 = 2.02

It is clear from Table (1) and the graph (1) of the statistical significance of the total tests under discussion for the experimental and control groups after the experiment: There are differences with a statistical error at the level of (0.05) where the value of (T) calculated in it (7.99) and this value is greater than the value (C) Tabularity is at the level of (0.05) = (2.02) with an error level of less than 0.05, and the differences percentages in the total of the tests under discussion reached (32.92%) in favor of the experimental group.

Figure (1)

illustrates the differences between the averages of the dimensional measurements of the total tests under study for the experimental group and the control group after the experiment.
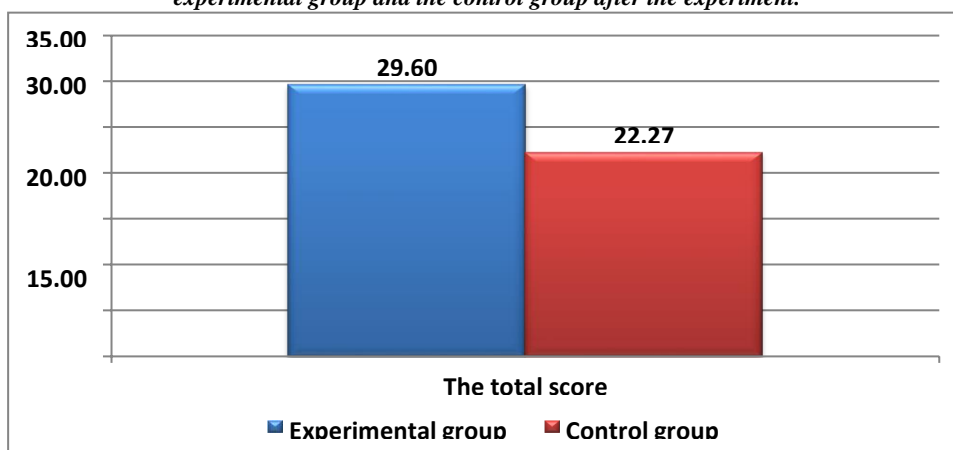
Table (2)
The magnitude of the impact of the total tests under consideration for the experimental and control group according to Cohn's equations.

Numerology Statistics Variable	Value (t)	Error level	ETA2	Impact size	Impact size error
Total tests under consideration	**7.99**	**0.00**	**0.22**	**1.05**	**High**

Impact size: Less than 0.5: Low 0.5-0.8: Average 0.8 and above: High – It is clear from the (2) scale of the magnitude of the impact volume of the total tests in question for the experimental and control group according to The Equations of Cohn that the values of the magnitude of the impact amounted to (1.05) and this value is greater than (0.8) and therefore the effect of the experimental variable was high in the total of the tests in question.

Figure (1)
shows the magnitude of the effect of the total tests under consideration for the experimental and controlled group according to Cohn's equations.
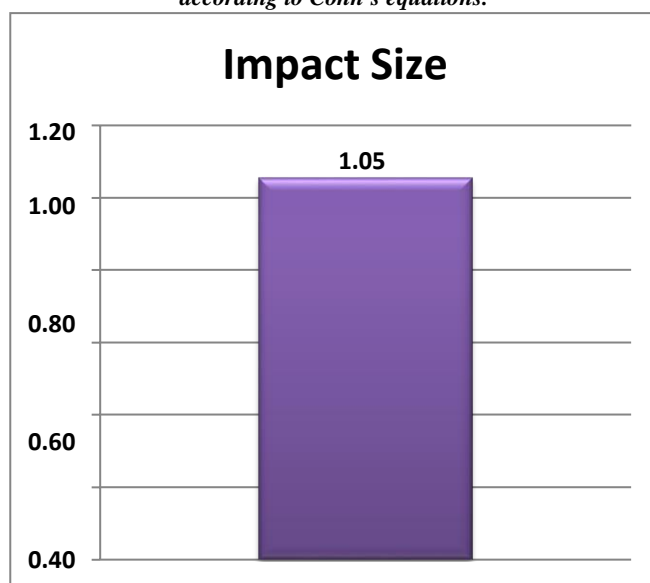
Results and Discussion :

Magdy Aziz Ibrahim (2005) and Wafika Salem (2007) agree that modern technological means used in learning raise educational quality so that the learner receives information more effectively and attractively and makes the learner student superior in assimilation and perception through positive interaction with the content Of the learning process. (2 : 83) (4 : 51)

It was evident from Tables 1, 2 and Figure 1, 2 that there were statistically significant differences in the total results of the tests under discussion in favor of the experimental group after the experiment and the size of a significant effect according to Cohen's equations - which indicates that the effect of the experimental variable was high in the total results of the tests under investigation in favor of Experimental group

These results are consistent with what was indicated by Wafika Salem (2007) and Kamal Abdel Hamid Zaitoun (2006) that the diversity of methods and methods by which the educational material is presented facilitates the learner to understand the theoretical material and takes into account individual differences between learners by using multiple methods that affect the learner through The senses of hearing and sight of the educational material to increase the learner's attention, which leads to raising the level of learning (4 : 51) (1 : 86)

This is also consistent with what Osama Kamel Ratib (1994) asserts that to learn back swimming, the teacher must provide an opportunity for learners to see a model for back swimming performance.

Which may not be available in the way the model is performed by a colleague of the swimming method - which requires the use of modern electronic means to provide a good model for back swimming performance ideally for high-level swimmers – as then in the current study which resulted in a high moral impact of the experimental variable according to Cohen's equations - The results of this study were also shown. (3 : 65)

Conclusions:

Based on the results and according to the research objectives, hypotheses and methodology the following conclusions were reached:

1. Using the students of the experimental group for the electronic platform in learning backstroke swimming improved the performance of the students in backstroke swimming and with statistical significance for the control group students who used the traditional program in learning backstroke swimming.

2. Using the students of the experimental group for the electronic platform in learning backstroke swimming had a positive and statistically significant effect on the cognitive part of backstroke swimming.

3. Using the students of the experimental group for the electronic platform in learning backstroke swimming had a positive and statistically significant effect in the overall tests under research in favor of the experimental group.

Recommendations:

Based on the results of the current study, the researcher recommends the following:

1. Using the computer and other means of e-learning in teaching and learning the curricula of the Aquatic Sports Training Department for its positive impact on the technical and cognitive level of the students.

2. Training the assisting personnel and those involved in the educational process to use various electronic means in the educational process in the teaching field within the faculty.

3. Conducting further research in the field of aquatic sports to identify various electronic technologies and means in teaching and learning aquatic sport activities.

References:

1. **Kamal Abd El-Hameed Zaitoun (2005) :** Educational technology at the age of information and communication, Aalam El-Kotob, 1st. Edition, Cairo.
2. **Magdy Aziz Ibrahim (2005):** Teaching and learning Strategies, Egyptian Angelo Library, 1St. Edition, Cairo.
3. **Osama Kamel Ratib, Ali Muhammad Zaki(1994):** The Scientific Foundations of Swimming Training - Dar Al-Fikr Al Arabi, Cairo.
4. **Wafika Moustafa Salem (2007):** Educational technology applications and activating the educational learning process in physical education and sports, 1St. Edition, El-Maaref Facility, Alexandria.